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Monthly Statistical Report

Finance, Accounting, and Statistics Department

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SUMMARY

In July, petroleum imports surpassed the previous all-time high reached seventeen years ago, and, for the first time ever, exceeded 10 million B/D. The 9.1 percent year-to-year jump, to 10.1 million B/D, represented the upper side of a wide, variable band around a level of imports more accurately reflected in the year-to-date average of almost 9 million B/D. Much of the additional imports last month ended up in domestic inventories. Total imports as a percent of domestic deliveries also reached a new, all-time high in July of 58 percent.

The previous high had been reached in early 1977, when imports briefly surged to just short of 10 million B/D from levels then more typically running around 8.5 million B/D. Comparing the domestic supply/demand balance now with then, it is notable that domestic petroleum consumption is roughly 1 million barrels per day *lower* than it was then, despite an increase in population of nearly 20 percent and growth in the production of goods and services on the order of 50 percent. But although domestic consumption declined, on net, between 1977 and 1994, domestic crude oil production declined even more—by roughly 1.5 million B/D. This has been despite increased production due to the development of major fields in Alaska, without which the decline in U.S. crude production would have been double that size.

In contrast with the surge in imports in July, domestic deliveries lagged behind recent trends and actually declined 0.6 percent versus a year ago. A substantial decline for residual fuel oil and smaller declines for gasoline and for "other oils" contributed to the decrease. Despite the month's weak deliveries, the strength of the economy and other indicators suggest that underlying growth in petroleum consumption has not slackened to any significant degree.

Domestic crude oil production fell 1.9 percent in July versus one year earlier. The drop of close to 130 thousand B/D was less than the average decline of more than 200 thousand B/D evident so far this year, due to an increase for Alaska. In Alaska, production rose 3.4 percent, or 50 thousand B/D from a one year earlier, but mainly because output then was depressed by installation work on the North Slope.

Input to crude distillation units in July slackened by 0.4 percent from a year ago. Even so, utilization remained strong at nearly 95 percent of reported capacity. Middle distillate output continued to grow, while, for gasoline, a combination of only-modest demand growth and strong gasoline imports contributed to a 1.9 percent decline in output of that product from last July.

July's substantial 31 million barrel increase in total inventories over the month continued the rebuilding of stocks after a sizable drawdown during the early part of this year. The build put total inventories at 1.065 billion barrels, still about 18 million barrels below the recent-year average for July. Despite July's surge in crude oil imports, crude stocks were essentially unchanged compared with June, at 326 million barrels—a level about 20 million barrels below typical levels for the end of July. Increases for product stocks, including 11 million barrels for distillate fuel oil, accounted for most of the rise in overall inventories.

PRODUCT SUPPLIED

Gasoline

CONSUMPTION LIKELY STILL RISING. July's 0.7 percent decline in deliveries of motor gasoline contrasted with the generally upward trend evident for much of the first part of this year. Gasoline deliveries have not experienced a similar-sized decline in more than a year. However, given the continued growth of the economy and the most recent data on highway travel, it seems unlikely that the month's decline in deliveries corresponded with any major slackening in underlying demand.

The most recent data on Gross Domestic Product put economic output at about 4 percent ahead of a year ago in the second quarter, and indications are that similar year-to-year economic performance continued into July. Data on highway travel, too, have shown no significant signs of slackening, at least through May, the latest month for which data are available. It is true that year-to-date growth in highway travel through May averaged only 2.4 percent, only marginally higher than for all of last year. But this was largely because of a slow start early in the year due to poor winter driving conditions. For March through May, miles traveled

API ESTIMATES

	JULY		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	17.3	(0.6)	17.5	3.4
Crude production	6.6	(1.9)	6.6	(3.3)
Total imports	10.1	9.1	8.9	4.9
Stocks (million bbl)	1,065	(3.1)	na	na

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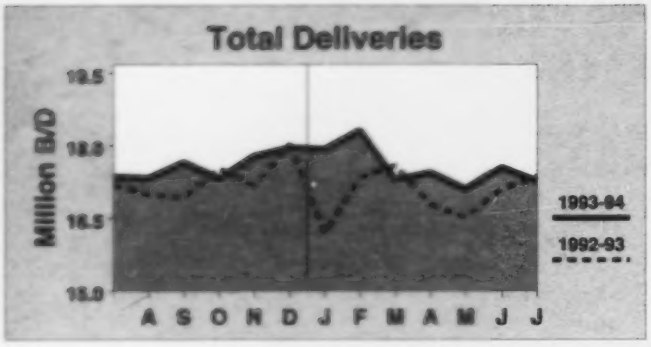
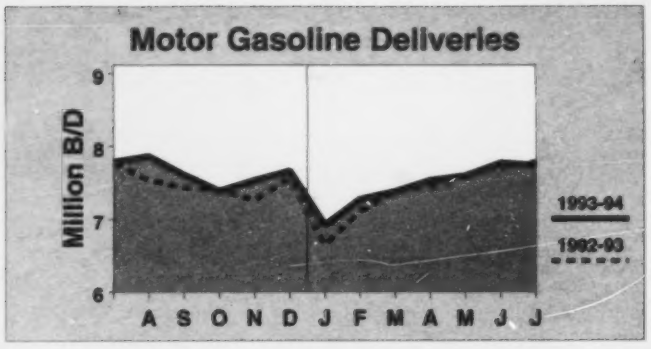
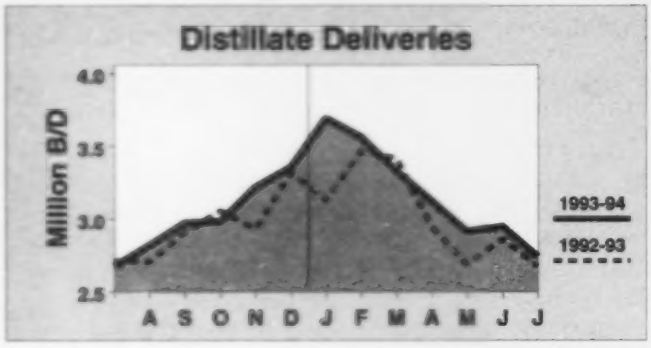
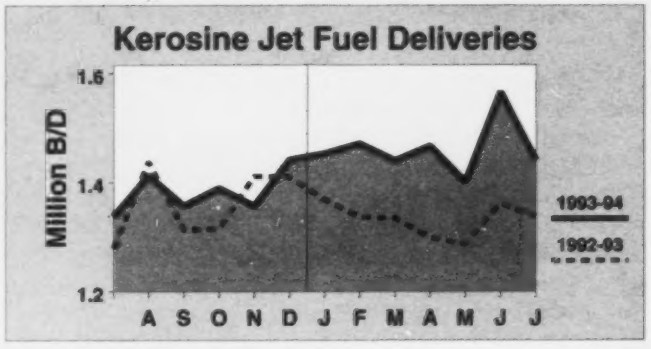








have averaged an unusually strong 3.8 percent. We estimate that highway travel in more recent months has still been growing at about a 3 percent rate, continuing to imply underlying growth in gasoline consumption of 1-1.5 percent.

Though July's year-to-year decline in deliveries contrasted with what underlying consumption is believed to have experienced, short-term fluctuations in gasoline deliveries growth have not been uncommon in the past. Over the past ten years, single-month growth has deviated from trend (as measured by a six-month moving average) by more than 2 percentage points about 40 percent of the time. Deviations of even 3 percentage points or more have occurred at an average rate of once or twice per year. Viewed in this context, July's decline in gasoline deliveries is unusual, but only moderately so.

Distillate Fuel Oil

DELIVERIES' GROWTH MODERATES IN JULY.

The strength in distillate fuel oil deliveries in the second quarter— which had witnessed year-to-year growth of about 6 percent—moderated in July. Deliveries rose only 2.5 percent for the month, their weakest year-to-year showing since March.

Nevertheless, if deliveries increases in recent prior months seemed a bit stronger than could be explained by trends in underlying demand, July's figure appears lower than what actual consumption growth is likely to have been. That growth we still estimate to be in the neighborhood of 4 to 5 percent. Highway freight demand appears to be continuing to grow robustly, pulling highway diesel demand with it. In addition, rail traffic registered a more than 7 percent increase for the month, only partly because of the effects on year-ago figures of last year's flooding in the Midwest.

As the difference between July's deliveries figures and estimated actual consumption demonstrate, the linkage between deliveries and consumption can be indirect and subject to lags and other factors. Highway diesel demand, for example, as measured by data collected by the Federal Highway Administration, has a noticeable seasonal component. According to this series, fuel usage in the summer months can run as much as 20 percent higher than in mid-winter.

Yet, a similar pattern has not been evident in roughly-corresponding data from the Energy Information Administration and API on deliveries from primary storage (what leaves refineries, pipelines, and major bulk terminals). Low-sulfur diesel, mandated for on-highway use as of last October, has been tracked separately from the rest of distillate fuel oil for over a year-and-a-half now. Yet this series, at least so far, has not shown any substantial seasonal variation. Rather, it has mostly remained in the 1.7 to 1.8 million B/D range since the requirement began late last year. The difference may be due to a number of factors, including shifts in the amount of product held in non-primary storage and use of low-sulfur diesel in some markets for other than on-highway use.

Kerosine Jet Fuel

TRAVEL GROWS, BUT WITH LITTLE EFFECT ON COMMERCIAL FUEL.

For the eighth consecutive month, deliveries of kerosine-jet fuel were higher for the current month than the same month in the previous year. In July, deliveries of jet-kero were 7.7 percent higher than the deliveries during July 1993. However, the rate of growth slackened somewhat from June's strong increase, and the July deliveries were running under expected trends.

Although the year-to-date deliveries of jet-kero are nearly 10 percent higher this year compared to last year, this is not an accurate indicator of the growth rate of underlying demand for commercial-use fuel. Despite the continued strong growth in the number of passenger miles flown by the airlines, fuel consumption has not kept pace with increased passenger traffic. In an effort to

increase efficiency, airlines have worked to minimize fuel costs, which account for roughly 15 percent of a commercial airline's operating expenses.

As a result of the emphasis on greater efficiency, the load factor of passenger miles to available capacity has been higher relative to last year. During the first six months of the year air passenger traffic was 3.6 percent higher than during the same interval in 1993, while available seat miles were lower by 1 percent. In addition, the airlines are also curbing their costs by grounding less-efficient planes. The result of these measures has been a smaller increase in fuel consumption than in revenue passenger miles, with a trend of about a 1 percent growth in monthly commercial demand from year to year.

The remaining increase in monthly deliveries can be attributed to the effects of the military conversion from JP-4, a naphtha-based jet fuel, to JP-8, a kerosine based jet fuel. According to the Defense Fuel Supply Center, the April 1994 conversion to JP-8 at the bases on the East Coast and along the Gulf has resulted in additional demand averaging 90 thousand B/D. The earlier conversion to JP-8 at the military bases on the West Coast has added as much as 60 thousand B/D average demand for jet-kero. The actual average daily impact on deliveries has likely varied from month to month.

Residual Fuel Oil

WEAK DELIVERIES CONTINUE. July deliveries of residual oil were more than 10 percent lower than the July deliveries of the previous year. The current delivery level is the lowest for July in at least the last two decades, despite an uncommonly hot June and July and strong demand earlier in the year. Since February, the monthly demand for resid has dropped nearly 35 percent, compared to an average seasonal drop of about 15 percent in the same interval during the last five years.

The decline in July resid deliveries relative to last July is tightly linked to somewhat cooler weather and a change in the price differential between residual oil and natural gas. Both of these effects are particularly important on the East Coast, where utilities choose between these fuel types to meet seasonal demand. Although the Mid-Atlantic region and New England were 7 percent and 42 percent warmer, respectively, than the year before, the Southeast was more than 9 percent cooler. Unlike last year, the warm summer conditions in the Northeast did not lead to increased purchases of resid. During July, the price of high-sulfur resid rose from slightly below the cost per BTU provided by natural gas to more than 20 percent above, dampening utility demand for resid despite increased demand for electricity. The unfavorable differential in prices may account for most, if not all, of the 109 thousand B/D drop from last year's July deliveries.

The large swings in resid demand over the past year illustrate how large an influence can be due to fuel switching at utilities, which in the last three years, have represented between 30 percent and 40 percent of the national consumption of resid. Because utilities may switch fuels based on price changes more easily than other consumers of resid, deliveries to utilities tend to be more volatile than other deliveries, such as those to industry and vessel bunkering, which together make up nearly 50 percent of average annual demand.

Other Oils

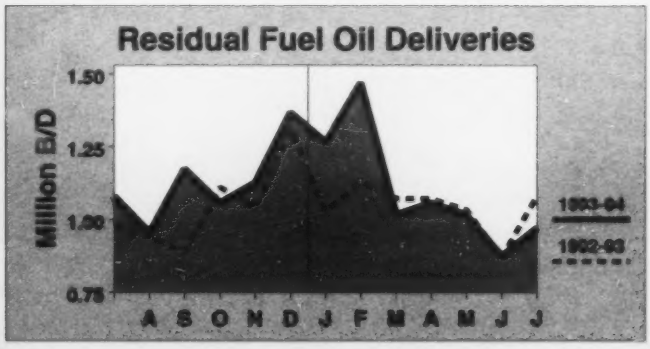
PREVIOUS GROWTH REVERSES IN JULY. Deliveries of "other oils" had grown nearly 5 percent in the first half of 1994—so July's 1.3 percent drop was a bit of a surprise. As with some of the major products, for which deliveries in July were likely weaker than actual underlying consumption, demand for "other oils" in July, we estimate, was still in positive territory.

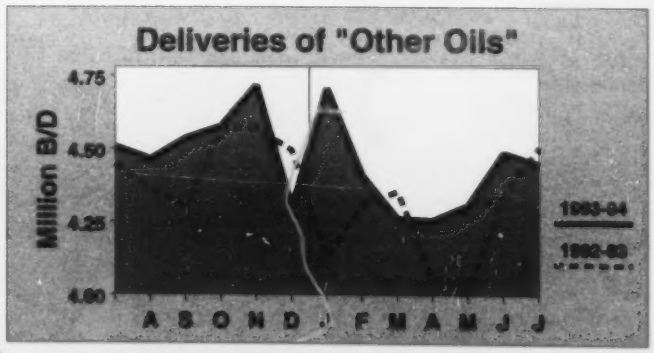
Petrochemical feedstock demand continues to be one of the major driving forces behind the growth in "other oils" demand. Deliveries of liquefied petroleum gases as a whole have been strong through much of this year. Though ethane deliveries taken alone have been down from last year because of less attractive economics compared with other feedstocks, butane has been relatively strong. Deliveries of naphtha-based feedstocks have been rising as well, and gasoil feedstocks seem to have picked up recently despite the higher oil prices of the past several months. Favorable values for co-products to ethylene production appears to be the reason.

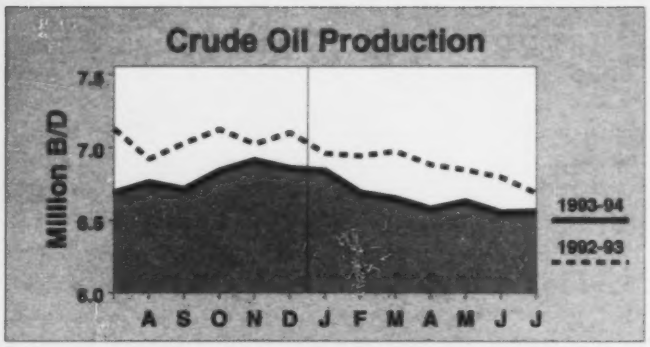
SUPPLY

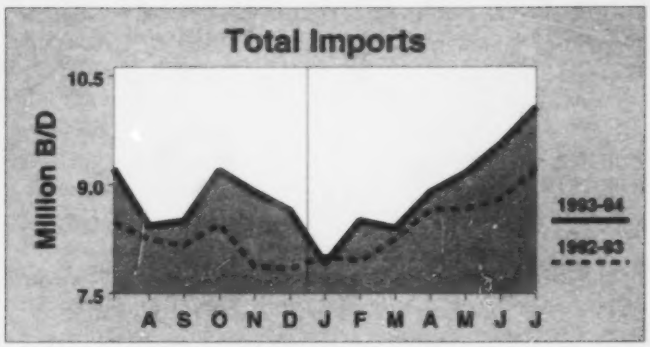
Production

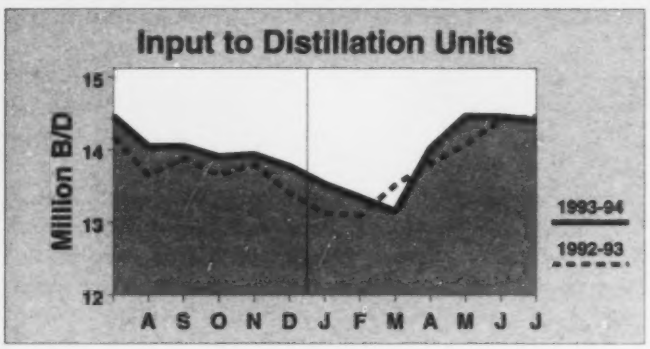
DROP FOR OIL DRAGS DOWN DRILLING ACTIVITY. Domestic crude oil production's decline in July of close to 130 thousand B/D, or 1.9 percent, was less than the average decline of more than 200 thousand B/D evident in the first half, mainly because of an increase for Alaska. However, much of Alaska's year to year gain was the result of depressed output last summer due to work on Phase 1 of the GHX-2 project to enhance gas-handling capability. Despite July's 3.4 percent, 50 thousand B/D increase in Alaskan production, output there still fell short of the 1.5 million B/D mark for the month. Modules for Phase 2,

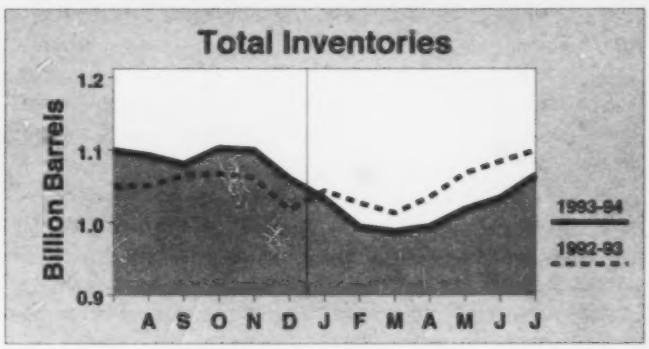












barged 8,000 miles from the Gulf Coast, are due to arrive in August. For the lower 48, crude oil output fell 3.4 percent or close to 180 thousand B/D.

Drilling activity continued to decline in the second quarter because of a sharp drop in oil completions, according to the most recent API estimates. Total completions fell more than 15 percent versus the second quarter of 1993. With oil prices for much of the first half running well below year-ago levels, oil completions fell 28 percent for the quarter following a 13 percent decline in the first. The second quarter's natural gas completions, on the other hand, rose nearly 7 percent. Even with the increase, gas completions were only one half their level of the early 1980s—and oil completions over the most recent four quarters have amounted to only one fifth of their level of a little over a decade ago.

Imports

IMPORTS REACH AN ALL-TIME HIGH. Surpassing the previous all-time high set seventeen years ago, petroleum imports in July, for the first time ever, exceeded 10 million B/D. The previous high, which had fallen slightly short of the 10 million B/D mark, occurred in February 1977. That high had been the result of a temporary surge from more typical levels averaging then around 8.5 million B/D.

In a similar way, this July's 9.1 percent year-to-year jump, to 10.1 million B/D, represented the upper side of a wide, variable band around a level of imports more accurately reflected in the year-to-date average of about 9 million B/D. Thus, much of the additional imports during July ended up in domestic inventories, and below-trend deliveries for the month only accentuated that result. Total imports as a percent of domestic deliveries also reached a new, all-time high of 58.3 percent for the month.

Among the interesting comparisons between today and seventeen years ago are the relative roles of consumption and crude oil production. The decline in crude oil production is well known. More surprising to some may be that domestic petroleum consumption is still roughly 1 million barrels per day *lower*, not higher, now than then, despite a population increase of nearly 20 percent and growth in the production of goods and services on the order of 50 percent.

Following the 1970s' peak in imports, petroleum demand actually declined as a result of the substantially higher prices of the late 1970s and early 1980s, as well as the sluggish economic growth of the period. At the same time, the coming on stream of North Slope Alaskan production beginning in late 1977 also reduced the need for imports. As a result, imports sank to an average of about 5 million B/D in the early to mid-1980s. Since then, they have generally trended upwards to their level of close to 9 million B/D so far this year.

The reason, then, that the trend in imports now has been running higher than seventeen years ago is that, although domestic consumption declined, on net, between 1977 and 1994, domestic crude oil production declined even more—by roughly 1.5 million B/D. This was despite the increased output from Alaska, without which the drop in U.S. crude production would have been double the actual decline.

Volumetrically, most of July's year-to-year increase in imports was in the form of crude, which reached a new high of over 7.9 million B/D. But product imports also surged in July versus a year ago and versus prior months, rising 10.4 percent to over 2.1 million B/D.

Finished gasoline imports were up roughly 150 thousand B/D to nearly 450 thousand B/D, putting them close to April-May levels of around 460 thousand B/D, after a dip in June. Distillate fuel oil and kerosine jet fuel imports, in contrast, were down from recent prior months and only about even with a year ago. Residual fuel oil imports, reflecting July's unusually weak deliv-

eries, fell about 60 thousand B/D to an unusually low 278 thousand B/D. For liquefied petroleum gases, imports were up strongly in July, rising nearly 70 thousand B/D to 243 thousand B/D versus a year ago.

Refinery Operations

INPUTS FALL SLIGHTLY FROM LAST JULY. Input to crude distillation units in July slackened by 0.4 percent from a year ago. Even so, utilization remained strong at nearly 95 percent of reported capacity, comparing closely with with May's 95.3 percent and June's 96.1 percent.

Gasoline yields continued to be weak relative to other products, reflecting continued competition from gasoline imports along with the fact that demand growth for this product has been the slowest among the major products. As a consequence, production of gasoline, including that blended downstream from refineries, fell 1.9 percent versus last July.

Middle distillate yields moderated some in July from recent prior months. Nevertheless, distillate fuel oil output still rose a reasonably strong 4.1 percent and kerosine jet fuel production, 3.9 percent. Residual fuel oil output increased 1.7 percent despite the extraordinarily weak deliveries of the past several months, reducing the role of resid imports in July even further.

Inventories

TOTAL STOCKS RISE SUBSTANTIALLY. The recent rebuilding in total inventories, following a sizable drawdown during the early part of this year, continued even more strongly in July. Total petroleum inventories rose an unusually large, 31 million barrels between the end of June and the end of July—more than double last year's build and about 10 million barrels more than their historical average increase for the month. The build put total inventories at 1.065 billion barrels, still about 18 million barrels below the recent-year average for July.

Despite July's surge in crude oil imports, crude stocks were essentially unchanged compared with June, at 326 million barrels—a level about 20 million barrels below typical levels for the end of July. Product stocks accounted for most of the rise, with about 11 million barrels of that a more-or-less typical gain for distillate fuel oil. Much of the remainder was estimated to be in stocks of "other oils".

Distillate fuel oil's increase put month-end stocks of that product at 130 million barrels, 9 million barrels ahead of a year ago. Thus, distillate inventories continued their pattern of the past five months of running 2 to 10 million B/D above year-ago levels. Gasoline stocks fell 4 million barrels to 211 million barrels, a level 6 million barrels less than average for the month.

ESTIMATED UNITED STATES PETROLEUM BALANCE[1]
(Daily average in thousands of 42 gallon barrels)

Disposition and Supply	July 1994[2]	July 1993[3]	July % Change	Year-to-Date 1994[4]	Year-to-Date 1993[3]	Year-to-Date % Change
Disposition:						
Total motor gasoline	7,733	7,785	(0.7)	7,456	7,380	1.0
Finished oxygenated	781	842[E]	(7.2)	1,321	1,311[E]	0.8
Finished reformulated	0	na	na	0	na	na
Finished other	6,952	6,943[E]	0.1	6,135	6,069[E]	1.1
Naphtha-jet	97	127	(23.6)	64	124	(48.4)
Kerosine-jet	1,441	1,338	7.7	1,462	1,333	9.7
Distillate fuel oil	2,740	2,674	2.5	3,184	3,021	5.4
≤ 0.05 percent sulfur	1,695	318[E]	433.0	1,706	347[E]	391.6
> 0.05 percent sulfur	1,045	2,356[E]	(55.7)	1,478	2,674[E]	(44.7)
Residual fuel oil	970	1,079	(10.1)	1,092	1,040	5.0
All other oils (including crude losses)	4,448	4,506	(1.3)	4,410	4,240	4.0
Reclassified[5]	-169	-152	na	-130	-168	na
Total domestic products supplied	17,260	17,357	(0.6)	17,538	16,970	3.4
Exports	935	1,001	(6.6)	912	1,027	(11.2)
Total disposition	18,195	18,358	(0.9)	18,450	17,997	2.5
Supply:						
Domestic liquids production:						
Crude oil (including condensate)	6,560	6,688	(1.9)	6,641	6,869	(3.3)
Natural gas liquids	1,690	1,741	(2.9)	1,685	1,762	(4.4)
Other supply[6]	894	1,194	(25.1)	1,214	1,239	(2.0)
Total domestic supply	9,144	9,623	(5.0)	9,540	9,870	(3.3)
Imports:						
Crude oil (excluding SPR imports)	7,928	7,289	8.8	6,900	6,722	2.7
From Canada	957	991	(3.4)	948	842	12.6
All other	6,971	6,298	10.7	5,952	5,880	1.2
Products	2,131	1,930	10.4	2,029	1,790	13.4
Residual fuel oil	278	337	(17.5)	382	345	10.7
All other	1,853	1,593	16.3	1,647	1,445	14.0
Total imports	10,059	9,219	9.1	8,929	8,512	4.9
Total supply	19,203	18,842	1.9	18,469	18,382	0.5
Stock change, all oils	+1,008	+484	na	+19	+385	na
Refinery Operations:						
Input to crude distillation units	14,405	14,458	(0.4)	13,912	13,790	0.9
Operable capacity	15,175	15,198	(0.2)	15,106	15,148	(0.3)
Refinery utilization[7]	94.9	95.1	na	92.1	91.0	na
Crude oil runs	14,261	14,136	0.9	13,727	13,525	1.5

	July 1994	June 1994	July 1993	% Change From Month Ago	% Change From Year ago
Stocks (at month-end, in millions of barrels):					
Crude oil (excluding SPR stocks)	326.4	325.9[R]	351.9	0.2	(7.3)
Unfinished oils	95.5	93.5	102.2	2.1	(6.6)
Total motor gasoline	210.7	215.0	214.6	(2.0)	(1.8)
Finished oxygenated	2.9	2.3	5.7	26.1	(49.1)
Finished reformulated	0.0	0.0	na	na	na
Finished other	171.6	177.1	171.1	(3.1)	0.3
Blending components	36.2	35.6	37.8	1.7	(4.2)
Naphtha-jet	1.4	2.0	3.9	(30.0)	(64.1)
Kerosine-jet	40.6	39.3	42.7	3.3	(4.9)
Distillate fuel oil	129.7	118.7	120.7	9.3	7.5
≤ 0.05 percent sulfur	66.4	61.1	21.0	8.7	216.2
> 0.05 percent sulfur	63.3	57.6	99.7	9.9	(36.5)
Residual fuel oil	37.9	38.5	42.5	(1.6)	(10.8)
All other oils	222.3	200.3[R]	220.5	11.0	0.8
Total all oils	1,064.5	1,033.2[R]	1,099.0	3.0	(3.1)

1—Total supply, i.e., production plus imports adjusted for net stock change is equal to total disposition from primary storage. Total disposition from primary storage less exports equals total domestic products supplied. Information contained in this report is derived from information published in the API *Weekly Statistical Bulletin* and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions. **2**—Based on API estimated data converted to a monthly basis. **3**—Source: U.S. Energy Information Administration (including any adjustments). **4**—Data for most current two months are API estimates. Other data come from U.S. Energy Information Administration (including any adjustments). **5**—An adjustment to avoid double counting resulting from differences in product classifications among different refineries and blenders. **6**—Includes unaccounted-for crude oil, withdrawals from the SPR when they occur, processing gain, field production of other hydrocarbons and alcohol, and downstream blending of ethanol. **7**—Represents "Input to crude oil distillation units" as a percent of "Operable capacity". **R**—Revised. **E**—Estimated. **na**-Not available.